

# **Summary of Major Federal Tax Incentives for Renewable Energy and Energy Efficiency**

**Senator Jeff Bingaman**

## **Renewable energy and biofuels production**

- **Renewable Energy Production Tax Credit (PTC).** The PTC is a per-kilowatt-hour tax credit for electricity generated by qualified energy resources and sold by the taxpayer to an unrelated person. The credit equals 2.2¢/kWh for energy generated by wind, closed-loop biomass, and geothermal sources, and 1.1¢/kWh for energy generated by open-loop biomass, landfill gas, municipal solid waste, hydroelectric, marine, and hydrokinetic resources. The credit is generally available for energy produced for 10 years after the date that the facility is placed in service. For all resources other than wind, the credit is available for facilities placed in service before 12/31/13 (for wind, the in service deadline is 12/31/12).
- **Volumetric Ethanol Excise Tax Credit.** Gasoline suppliers who blend ethanol with gasoline can claim a tax credit of 45¢/gallon of ethanol. In addition, ethanol producers with production capacity below 60 million gallons per year can claim the small ethanol producer credit of 10¢/gallon for the first 15 million gallons produced in a given year. This credit is available for ethanol produced by 12/31/11.
- **Biodiesel Tax Credit.** Biodiesel producers (or producers of diesel/biodiesel blends) can claim a tax credit of \$1.00/gallon of “agri-biodiesel” (biodiesel produced from virgin agricultural products such as soybean oil or animal fats). The credit is available without regard to the process used, so long as the fuel is usable as home heating oil, as a fuel in vehicles, or as aviation jet fuel. Biodiesel produced by co-processing with previously used agricultural products (*e.g.*, recycled fryer grease) is eligible for a 50¢/gallon credit. In addition, agri-biodiesel producers with production capacity below 60 million gallons per year can claim an additional 10¢/gallon for the first 15 million gallons produced in a given year. This credit is available for biodiesel produced by 12/31/11.
- **Renewable Diesel Tax Credit.** Producers of biomass-based diesel fuel made through a thermal depolymerization process (or producers of diesel/renewable biodiesel blends) can claim a tax credit of \$1.00/gallon. As defined by law, diesel fuel substitutes produced through thermal processes are not considered “biodiesel,” and thus are ineligible for the biodiesel credits. This credit is available for ethanol produced by 12/31/11.
- **Credit for Production of Cellulosic Biofuel.** Producers of cellulosic biofuel can claim a tax credit of \$1.01/gallon. For producers of cellulosic ethanol, the value of the credit is reduced by the amount of the volumetric ethanol excise tax credit and the small ethanol producer credit. The credit applies to fuel produced after December 31, 2008 and before January 1, 2012.

## **Business credits**

A range of federal business tax credits is available for purchases of certain properties. Generally, the credit is available only if (a) the original use of the qualified property begins with the business taxpayer or (b) the system is constructed by the taxpayer. These credits may be reduced for property financed by subsidized energy financing or by tax-exempt private activity bonds.

- **Solar**. Business taxpayers can claim a tax credit equal to 30% of expenditures for eligible solar energy property, without limitation. Eligible property includes equipment that uses solar energy to generate electricity, to heat or cool (or provide hot water for use in) a structure, or to provide solar process heat. Hybrid solar lighting systems are those that use solar energy to illuminate the inside of a structure using fiber-optic distributed sunlight. This credit is available to facilities placed in service before January 1, 2017.
- **Fuel Cells**. Business taxpayers can claim a tax credit equal to 30% of expenditures on eligible fuel cell property (*i.e.*, fuel cells with a minimum capacity of 0.5 kW that have an electricity-only generation efficiency of 30% or higher). The credit is currently capped at \$1,500 per 0.5 kW of capacity (or \$500 per 0.5 kW for property placed into service on or before 10/3/08). This credit is available to facilities placed in service before January 1, 2017.
- **Small Wind Turbines**. Business taxpayers can claim a credit of 30% of expenditures, up to \$4000, on small wind turbines (*i.e.*, turbines up to 100 kW in capacity) placed into service after 10/3/08 and before January 1, 2017.
- **Geothermal Systems**. Business taxpayers can claim a credit equal to 10% of expenditures on eligible geothermal energy property, without limitation. Qualified property includes geothermal heat pumps, equipment used to produce, distribute, or use energy derived from a geothermal deposit, placed into service after 10/3/08. For electricity produced by geothermal power, equipment qualifies only up to, but not including, the electric transmission stage. This credit is available to facilities placed in service before January 1, 2017.
- **Microturbines**. Business taxpayers can claim a credit equal to 10% of expenditures, up to \$200/kW, on microturbines up to 2 megawatts in capacity that have an electricity-only generation efficiency of 26% or higher. This credit is available to facilities placed in service before January 1, 2017.
- **Combined Heat and Power (CHP)**. Business taxpayers can claim a credit equal to 10% of expenditures, without limitation, for eligible CHP property placed into service after October 3, 2008, without limitation. Eligible property generally includes systems up to 50 megawatts in capacity that exceed 60% energy-efficiency, subject to certain limitations and reductions for large systems. The efficiency requirement does not apply to CHP systems that use biomass for at least 90% of the system's energy source, but the credit may be reduced for less-efficient systems. This credit is available to facilities placed in service before January 1, 2017.

### Consumer credits

- Home Improvement tax credit: Taxpayers who own existing homes can claim a tax credit for energy efficient home improvements (insulation, replacement windows, non-solar water heaters, and certain high efficiency heating and cooling equipment) on their primary residence. The credit is generally equal to 10% of the purchase price of the equipment. The total credit is capped at \$500 over the lifetime of the credit. This credit expires at the end of 2011.
- Solar energy systems: Taxpayers who are homeowners can claim tax credits for qualified solar water heating and photovoltaic systems placed in service at their home. The credits are available for systems placed in service from 1/1/06 through 12/31/16. The tax credit is for 30% of the cost of the system, up to \$2,000. The credit can be claimed by AMT taxpayers.
- Geothermal heat pumps: Taxpayers who are homeowners are eligible to claim a tax credit for 30% of the cost of geothermal heat pumps placed in service at their home from 1/1/08 through 12/31/16. The geothermal heat pump must meet the requirements of the Energy Star program in effect at the time of installation. The credit can be claimed by AMT taxpayers.
- Small Wind Energy Systems: Taxpayers who are homeowners are eligible to claim a tax credit for 30% of the cost of residential small wind turbine systems placed in service at their home from 1/1/08 through 12/31/16. The credit can be claimed by AMT taxpayers.
- Fuel Cells: Taxpayers who are homeowners are eligible to claim a tax credit of up to 30% of the cost (up to \$500 per 0.5 kW of capacity maximum) for qualified fuel cell systems placed in service at their home from 1/1/06 through 12/31/16.
- Vehicles: A tax credit exists for plug-in hybrid electric vehicles, starting at \$2,500 and capped at \$7,500 for cars and trucks (the credit is based on the capacity of the battery system). The first 200,000 vehicles sold per manufacturer get the full tax credit (then it phases out).

### **Home builder credits**

- **Energy efficient new homes:** Home builders are eligible for a \$2,000 tax credit for constructing a new energy efficient home that achieves 50% energy savings energy savings for heating and cooling over the 2004 International Energy Conservation Code (IECC) and supplements. At least 20% of the energy savings must come from building envelope improvements. This credit also applies to contractors of manufactured homes conforming to Federal Manufactured Home Construction and Safety Standards.
- **Energy efficient manufactured homes:** Producers of new manufactured homes are eligible for a \$1,000 tax credit for a manufactured home achieving 30% energy savings for heating and cooling over the 2004 IECC and supplements (at least 1/3 of the savings must come from building envelope improvements), or a manufactured home meeting the requirements established by EPA under the ENERGY STAR program.

Both of these credit expire on at the end of December 31, 2011.

### **Commercial building owners and designers**

- Owners or designers of new or existing commercial buildings are eligible to claim a tax deduction of \$1.80 per square foot (of the relevant building) for improvements that save at least 50% of the heating and cooling energy of a building that meets ASHRAE Standard 90.1-2001. Partial deductions of up to \$.60 per square foot can be taken for measures affecting any one of three building systems: the building envelope, lighting, or heating and cooling systems. These tax deductions are available for systems placed in service from 1/1/06 through 1/31/13.

*The foregoing was adapted by the Office of Senator Jeff Bingaman from Energy Star, a program of the U.S. Environmental Protection Agency and the U.S. Department of Energy, and the North Carolina State University Database of State Incentives for Renewables & Efficiency. This summary is neither exhaustive nor intended to offer tax guidance. For further details, consult your tax professional or visit:*  
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